CLAIMS

1.   A system for transmitting electronic data between a computer terminal on an aircraft and a terrestrial base station, the system comprising:

a telephone network at least partially secured to the aircraft for providing telephone service to aircraft passengers;

a server mounted upon or within the aircraft and coupled to the telephone network for communicating with the computer terminal over the telephone network, wherein the terminal is disposed remotely from the server and is coupled to the telephone network; and

a terrestrial base station for selectively communicating with the server to allow the data to be passed between the base station and the terminal over the telephone network.

2.   The system of claim 1 wherein the base station communicates with the server via one or more wireless links, each of the wireless links being a satellite link, a cellular telephone link, a microwave link or a NATS compatible link.

3.   The system of claim 1 wherein the base station or server determine which of a plurality of wireless links to employ based upon the availability of each of the plurality of links, a relative cost of each of the plurality of links, or a relative speed of each of the plurality of links.

4.   The system of claim 1 wherein the base station is configured to provide a first signal indicative of whether the data is text, a selected file type, an attachment, or a graphic image, and wherein the terminal is configured to generate a second signal in response to the first signal confirming that the data is to be transmitted from the base station to the terminal.

1   5.   The system of claim 1 wherein the base station stores electronic data
2   to be transmitted from the base station to the server, and the server stores electronic data
3   to be transmitted from the server to the base station, wherein the server and base station
4   communicate with each other intermittently, and wherein the server determines when to
5   transmit the stored data on the basis of the amount of time the aircraft has been in flight
6   or on the basis of an amount of data stored.

1   6.   The system of claim 1 wherein the base station is configured to
2   generate a trigger signal between the base station and the server when a predetermined
3   amount of data has been stored by the base station, to initiate transmitting of the stored
4   data to the server.

1   7.   The system of claim 1 wherein the server notifies the base station of
2   pending e-mail messages not received by a computer terminal aboard the aircraft, wherein
3   the computer terminal has an e-mail address, and wherein the base station is configured to
4   store and resend, to the e-mail address, the pending e-mail messages after the aircraft
5   arrives at a destination.

1   8.   The system of claim 1 wherein the server notifies the base station of
2   e-mail messages, from a mail server, that have been received by the computer terminal
3   aboard the aircraft, wherein the computer terminal has an e-mail address, and wherein the
4   base station is configured to contact the mail server for deletion of the e-mail messages
5   that have been received by the computer terminal.

1   9.   The system of claim 1, further comprising a CEPT interface coupled
2   to the telephone network and to the server.

1   10.   The system of claim 1 wherein the server includes a database of
2   information, the database being updated periodically by transmission of electronic data

3   from the base station to the server, and wherein the server allows the terminals to access

4   the database with a web browser.

1   11.   A system for transmitting electronic data between a terrestrial base

2   station and a plurality of passenger computer terminals coupled to a network on an

3   aircraft, the system comprising:

4   a database for storing e-mail messages for the plurality of passenger

5   computer terminals; and

6   a server secured to the aircraft and coupled to the database and to the

7   plurality of passenger computer terminals via the network, wherein the server and

8   database are configured to collect and store a plurality of e-mail messages from the

9   plurality of passenger computer terminals before establishing an intermittent wireless link

10   with the base station, and configured to transmit the plurality of e-mail messages as a

11   group over the link to the base station when the aircraft is in flight and when the server

12   determines to initiate the transmission.

1   12.   The system of claim 11 wherein the server and database store e-mail

2   messages transmitted to the aircraft over the wireless link for at least one of the plurality

3   of passengers, despite the one passenger's computer terminal not being logged into the

4   server over the network.

1   13.   The system of claim 11 wherein the server provides installer

2   software for selective loading to the plurality of passenger computer terminals, wherein

3   the installer software automatically changes access settings of at least some of the

4   plurality of passenger computer terminals for accessing and exchanging e-mail with the

5   server over the network, and automatically returns the access settings to a prior condition

6   afterwards.

1   14.   The system of claim 11 wherein the server is configured to employ

2   Intelligent Mail Management (IMM) and to communicate with the plurality of passenger

3   computer terminals under a Point-To-Point (PPP) protocol.

1   15.   The system of claim 11 wherein the server is configured to compress

2   the plurality of e-mail messages before transmission over the wireless link.

1   16.   The system of claim 11 wherein the terminal receives from the base

2   station a first signal indicative of a type of attachment associated with an e-mail message,

3   and wherein the terminal is configured to transmit to the base station a second signal in

4   response to the first signal requesting that the attachment be transmitted from the base

5   station to the server over the wireless link.

1   17.   The system of claim 11 wherein the server determines when to

2   transmit the plurality of e-mail messages based on the amount of time the aircraft has

3   been in flight or an amount of data stored.

1   18.   The system of claim 11 wherein the server is configured to receive

2   from the base station a trigger signal when a predetermined amount of data has been

3   stored by the base station, and in response thereto, to initiate receiving the stored data

4   from the base station.

1   19.   The system of claim 11 wherein the server is configured to monitor

2   system parameters of the aircraft including passenger doors open/closed status and

3   aircraft airborne/landed status, and to communicate with the base station for e-mail

4   message transfer based on the system parameters of the aircraft.

1   20.   The system of claim 11 wherein the server is configured to monitor a

2   status of a scheduled flight of the aircraft including a beginning and end of the flight, if

3   the flight is cancelled, or if the flight is held away from a gate for an extended period of

4   time, and wherein the server is configured to communicate with the base station for e-

5   mail message transfer based on the flight status of the aircraft.

1   21.   The system of claim 11 wherein the server provides a domain name

2   server and automatically receives, and transmits to the base station, mail server addresses,

3   user id's and passwords, including applicable firewall access information, from the

4   plurality of passenger computer terminals when each passenger attempts to retrieve e-

5   mail.

1   22.   The system of claim 11 wherein the server database includes a

2   plurality of web pages, and wherein the provides a domain name server and automatically

3   redirects passenger DNS requests to appropriate web pages.

1   23.   The system of claim 11 wherein the database includes a plurality of

2   web pages, and wherein the server provides a domain name server that records passenger

3   requested URLs and provides requested URLs to the base station for updating the

4   plurality of web pages in the database.

1   24.   The system of claim 11 wherein the server receives from the base

2   station a summary of an attachment associated with an e-mail message and provides a

3   hypertext link for accessing the attachment by a passenger, and wherein the server is

4   configured to receive the attachment over the wireless link if the passenger provides a

5   payment signal.

1   25.   The system of claim 11 wherein the server receives from the base

2   station a summary of an attachment and a hypertext link for sending the attachment by a

3   passenger, and wherein the server is configured to send the attachment over the wireless

4   link to the base station if the passenger provides an authorization signal.

1   26.   The system of claim 11 wherein the server is configured to permit

2   communications between the plurality of passenger computer terminals aboard the

3   aircraft via the network.

1   27.   The system of claim 11, further comprising a plurality of passenger

2 computer terminals secured to the aircraft and coupled to the network.

1   28.   The system of claim 11 wherein the database includes a plurality of

2 video games, compressed format movies or audio files, and wherein the server and

3 database provide the video games, movies or audio files to a plurality of passengers

4 aboard the aircraft via the network.

1   29.   The system of claim 11 wherein the database includes a plurality of

2 web pages, wherein the plurality of web pages lack links to other web pages not stored in

3 the database, and wherein the server and database provide search engine functions to

4 permit the plurality of passenger computer terminals to search and access desired web

5 pages in the plurality of web pages.

1   30.   The system of claim 11 wherein the database includes a plurality of

2 web pages, and wherein the server and database load and update the plurality of web

3 pages under differential management proxy cache operations to load a predetermined

4 number of levels from selected web sites, and to update changes in web page code

5 without reloading each web page.

1   31.   The system of claim 11 wherein the database includes a plurality of

2 web pages, and wherein the server and database update predetermined data in the

3 plurality of web pages via the wireless link, wherein the predetermined data includes

4 share prices, weather updates or news flashes.

1   32.   The system of claim 11 wherein the database includes a plurality of

2 web pages, and wherein web pages in the database are updated by connection with a data

3 loader at the base station, by physical replacement of a mass storage device containing

4 the database, remotely by a wired link, or remotely by the wireless link.

1   33.   An aircraft computer communication system for use on an aircraft,
2 wherein the aircraft carries a plurality of passengers having computer terminals, the
3 system comprising:

4   a database for storing e-mail messages for the plurality of passenger
5 computer terminals;

6   a network hub located on the aircraft for allowing the transfer of the e-mail
7 messages to the passenger computer terminals; and

8   a first port and a second port located on the aircraft for coupling the
9 database with passenger computer terminals and for allowing the establishment of a first
10 network node and a second network node respectively, and wherein the network hub
11 routes selected e-mail messages between the database and the terminals.

1   34.   The system of claim 33 wherein the first and second ports form ports
2 of a passenger telephone system.

1   35.   The system of claim 33 wherein the first node is coupled to a
2 telephone system on the aircraft with a CEPT-E1 connection.

1   36.   The system of claim 33, further comprising a server coupled to the
2 database.

1   37.   A method for transmitting electronic data between a plurality of
2 passenger computer terminals on an aircraft and a terrestrial base station, the method
3 comprising:

4   collecting and storing a plurality of e-mail messages for the plurality of
5 passenger computer terminals at the base station;

6   establishing an intermittent wireless link with the base station; and

7   transmitting the plurality of e-mail messages as a group over the link
8 between an airborne database and the base station.

1   38.   A method according to claim 37 wherein the establishing includes
2   establishing one or more wireless links, the wireless links being a satellite link, a cellular
3   telephone link, a microwave link, or a NATS compatible link.

1   39.   A method according to claim 37 wherein establishing includes
2   identifying a desired link from a plurality of links based on the availability of each link,
3   the relative cost of each link, or the relative speed of each link.

1   40.   A method according to claim 37 wherein transmitting includes
2   transmitting data using SMTP, HTTP, POP3 or IMAP protocol.

1   41.   A method according to claim 37 wherein establishing includes
2   identifying a desired base station from a plurality of base stations based on a available
3   remaining capacity of the base stations or a least expensive communication route
4   available by the base stations.

1   42.   A method according to claim 37, further comprising receiving a
2   trigger signal indicating e-mail messages stored at the base station await retrieval.

1   43.   The method of claim 37 wherein storing includes storing store e-mail
2   messages transmitted to the aircraft over the wireless link for at least one of the plurality
3   of passengers, despite the one passenger's computer terminal not being logged on.

1   44.   The method of claim 37, further comprises automatically changing
2   access settings of at least some of the plurality of passenger computer terminals for
3   accessing and exchanging e-mail, and automatically returning the access settings to a
4   prior condition afterwards.

1   45.   The method of claim 37, further comprises dynamically assigning IP
2   addresses to at least some of the plurality of passenger computer terminals for accessing

3   and exchanging e-mail over an Ethernet network, wherein the at least some passenger

4   computer terminals have static IP addresses and wherein Ethernet network properties of

5   the at least some passenger computer terminals remain unchanged.

1   46.   The method of claim 37, further comprising monitoring system

2   parameters of the aircraft including passenger doors open/closed status, aircraft

3   airborne/landed status, flight cancellation, or extended aircraft waiting while away from a

4   gate, and communicating with the base station for e-mail message transfer based on the

5   system parameters of the aircraft.

1   47.   The method of claim 37, further comprising automatically collecting

2   from each passenger and transmitting to the base station, mail server addresses, user id's

3   and passwords and firewall access information from the plurality of passenger computer

4   terminals when each passenger attempts to retrieve e-mail.

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1   48.   The method of claim 37, further comprising automatically collecting

2   from each passenger e-mail from a mail server logically positioned behind a firewall

3   security measure, without the need for the passenger computer terminal being available.

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1   49.   The method of claim 37, further comprising providing a summary of

2   an attachment associated with an e-mail message and a hypertext link for accessing the

3   attachment, and receiving the attachment over the wireless link if a passenger provides a

4   payment signal.

1   50.   The method of claim 37, further comprising storing a predetermined

2   number of levels for a plurality of web pages, and updating changes in web page code for

3   the plurality of web pages without reloading each web page.

1   51.   A system for transmitting electronic data between a computer

2 terminal on an aircraft and a terrestrial base station, the system including:

3   a server mounted upon or within the aircraft for communicating with the

4 computer terminal wherein the terminal is disposed remotely from the server; and

5   a terrestrial base station for selectively communicating with the server to

6 allow the data to be passed between the base station and the terminal.

1   52.   The system of claim 51 wherein the base station communicates with

2 the server via a link selected from one or a combination of: one or more wireless links;

3 and one or more wire links.

1   53.   The system of claim 51 wherein the server communicates with a

2 plurality of remotely disposed computer terminals located on the aircraft for allowing

3 communication of the electronic data between the base station and the respective

4 terminals.

1   54.   The system of claim 51 wherein the terrestrial base station

2 selectively communicates with an Internet service provider (ISP) or corporate private

3 network to collect the electronic data and provide it to the terminal via the server.

1   55.   A method for transmitting electronic data between a plurality of

2 passenger computer terminals on an aircraft and a terrestrial base station, the method

3 comprising:

4   collecting and storing a plurality of e-mail messages from the plurality of

5 passenger computer terminals at an airborne data base;

6   establishing an intermittent wireless link with the base station; and

7   transmitting the plurality of e-mail messages as a group over the link from

8 the airborne database to a base station.

1   56.   The method of claim 55 wherein the base station transmits at least

2 one of the plurality of e-mail messages to a destination mail server for at least one of the

3   plurality of passengers, despite the one passenger's computer terminal not being logged

4   on.

1   57.   The method of claim 55, further comprises dynamically assigning IP

2   addresses to at least some of the plurality of passenger computer terminals for accessing

3   and exchanging e-mail over an Ethernet network.

1   58.   The method of claim 55, further comprising automatically collecting

2   from each passenger e-mail from a mail server logically positioned behind a firewall

3   security measure.